

Fig. 5. Dart-like chitinous (?) bodies found in the walls of the pedal gland.

Fig. 6. The generative organs.

Lettering.

<i>alb.gl.</i> Albumen gland.	<i>p.</i> Penis.
<i>b.c.</i> Buccal cavity.	<i>pr.</i> Prostate.
<i>c.</i> Crop.	<i>r.d.</i> Receptacular duct.
<i>f.ov.</i> Free oviduct.	<i>rect.</i> Rectum.
<i>h.d.</i> Hermaphrodite duct.	<i>r.s.</i> Receptaculum seminis.
<i>h.gl.</i> Hermaphrodite gland.	<i>s.d.</i> Salivary duct.
<i>int.</i> Intestine.	<i>s.gl.</i> Salivary gland.
<i>m.</i> Muscle.	<i>st.</i> Stomach.
<i>æ.</i> Oesophagus.	<i>v.d.</i> Vas deferens.
<i>ov.</i> Oviduct.	<i>vg.</i> Vagina.

XXII.—Description of a new *Papilio* from Bali of the *nox* group. By LIONEL DE NICÉVILLE, F.E.S., C.M.Z.S., &c.

THE butterfly described below comes into Section B of the *nox* group of *Papilios* as defined by the Hon. Walter Rothschild in 'Novitates Zoologicae,' vol. ii. p. 258 (1895), which is characterized by the margin of the abdominal fold of the hind wing in the male, when fully expanded, having a fringe of long hairs* ; the basal partition of the subcostal nervure of the same wing in both sexes is short ; and the abdomen in both sexes black, or red only at the apex. All the females of this section (except the species described below, which was unknown to Mr. Rothschild) are said by that writer to have the upperside of the fore wing "brown" ; but *P. erebus*, Wallace, which I have from Sumatra only (it occurs also in the Malay Peninsula and in Borneo), certainly is dark blue-black as in *P. nyx*, and Westwood says the female of *P. erebus* is "black above" ; while the latter eminent entomologist says also that his *P. strix*, which is the female of his *P. noctula*, is "black" above. I would reconstruct Mr. Rothschild's key to the females of the group (including *P. nyx*) as follows, adding that I have not seen specimens of *P. noctis* and *P. noctula* :—

- A. Upperside, both wings brown.
- a. Upperside, hind wing uniform brown.
 1. *P. nox*, Swainson : Java.
 - b. Upperside, hind wing with a band of dirty white near the outer margin.
 2. *P. noctis*, Hewitson : Borneo.

* Mr. Rothschild says his Section A also has a fringe of long hairs. This, however, is a clerical error ; all the species in the Section lack these hairs.

B. Upperside, both wings blue-black.

a. Upperside, hind wing strongly marked with longitudinal cream-coloured stripes on either side of the longitudinal black veins.

3. *P. noctula*, Westwood: Borneo.

b. Upperside, hind wing uniform blue-black.

a'. Hind wing broad, deeply indented on the outer margin between the veins, with broad creamy-white cilia.

4. *P. nyx*, de Nicéville: Bali.

b'. Hind wing narrow, shallowly indented on the outer margin between the veins; the cilia just touched with white in the middle of the internervular indentations.

5. *P. erebus*, Wallace: Malay Peninsula, Sumatra, Borneo.

Papilio (*Pangerana*) *nyx*, sp. n.

Hab. Bali.

Expanse, ♀, 5·0 inches.

Female.—*Upperside*: both wings black, with a very slight blue gloss. Fore wing with the apex white, this white area bounded anteriorly by the second subcostal nervule, extending slightly into the anterior outer end of the discoidal cell, not reaching the apex and outer margin, and ending posteriorly about the third median nervule; this white area bears narrow streaks of the ground-colour between the veins; cilia creamy white. Hind wing unmarked; cilia broadly creamy white, this colour extending slightly on to the wing in the internervular indentations. *Underside*: both wings fuscous, without gloss. Fore wing with the white area more extensive, bounded anteriorly by the first subcostal nervule, and reaching nearer to the apex and outer margin; an obscure reddish streak on the middle of the costa anterior to the costal nervule; cilia creamy white. Hind wing unmarked; cilia creamy white, that colour extending much more broadly on to the wing than on the upperside, especially so on either side of the apices of the veins. Palpi, head and thorax at the sides, and abdomen at the apex crimson.

This species differs from the same sex of *P. erebus*, Wallace, in having the fore wing broader, the apical white area larger, the cilia creamy white instead of black, and the ground-colour less blue. The hind wing is markedly broader, the incisures much deeper, and the cilia broadly creamy white; in *P. erebus* the cilia are only just touched with white between the veins, otherwise black.

This interesting species was captured by Mr. William Doherty in March 1896, at 2000–4000 feet, in the island of Bali, which is only separated from Java on the east by a narrow strait. I am indebted to Mr. H. J. Elwes for the gift of the specimen described. He has doubtless other specimens in his collection.

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